

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A conductive roller comprising a cylindrical body composed of a conductive urethane composition and a metal shaft disposed within the cylindrical body, wherein said conductive urethane composition comprises:

polyurethane obtained by a poly-addition reaction of a polyol and a polyisocyanate, and

an organometallic salt of bis(fluoroalkyl-sulfonyl)imide and a metal salt of fluoroalkyl sulfonic acid as an organic ionic-conductive agent,

wherein a polyether polyol is used as said polyol; an average value of a non-saturation degree of said polyether polyol is set to not more than 0.025 milliequivalents/g; and an amount of polyisocyanate used for 100 parts by weight of polyol is set so that an isocyanate index (molar ratio % of NCO groups to OH groups) of the polyol and the polyisocyanate is set to 100 to 110,

wherein not less than 0.5 % of said organometallic salt is single-ionized,

wherein said conductive urethane composition contains hydrotalcites or zeolites as a negative ion absorbent,

wherein the volume resistivity of said conductive urethane composition is not less than $10^{6.0}$ ($\Omega \cdot \text{cm}$) nor more than $10^{8.0}$ ($\Omega \cdot \text{cm}$),

wherein not less than 0.01 parts by weight of said organic ionic-conductive agent nor more than 5.0 parts by weight thereof is used for 100 parts by weight of said polyol, and

wherein said conductive urethane composition has a compression set not more than 15% when said compression set is measured at 70°C for 24 hours in a permanent set testing method for rubber, vulcanized or thermoplastic, specified in JIS K6262.

2. (Currently Amended) The conductive roller according to claim 1, wherein said conductive urethane composition has ~~a compression set not more than 15% when said compression set is measured at 70°C for 24 hours in a permanent set testing method for rubber, vulcanized or thermoplastic, specified in JIS K6262; a volume resistivity less than $10^{9.0}$ ($\Omega\text{-cm}$) when said volume resistivity is measured at an applied voltage of 500V in a method specified in JIS K6911; and~~ a hardness not more than 55 degrees when said hardness is measured in accordance with a durometer hardness test type A specified in JIS K-6253.

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) The conductive roller according to claim 1, wherein said polyether polyol contains ethylene oxide and/or propylene oxide, and said ethylene oxide and/or propylene oxide is present at not less than 50 wt% of ethylene oxide unit and/or propylene oxide units present-unit in the polyether polyol.

8. (Previously Presented) The conductive roller according to claim 1, wherein said polyether polyol comprises not less than 50 wt% propylene oxide, based on the polyether polyol.

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) The conductive roller according to claim 1, wherein a peripheral surface of said metal shaft is treated with plasma, and said peripheral surface of said metal shaft and an inner peripheral surface of said cylindrical body are bonded to each other.

12. (Previously Presented) An electrophotographic apparatus comprising a photosensitive drum operatively connected to the conductive roller of claim 1, wherein the conductive roller is used as a charging roller for uniformly charging the photosensitive drum.

13. (Previously Presented) An electrophotographic apparatus comprising a photosensitive member operatively connected to the conductive roller of claim 1, wherein the conductive roller is used as a developing roller for attaching toner to a photosensitive member of an electrophotographic apparatus.

14. (Previously Presented) An electrophotographic apparatus comprising a photosensitive member operatively connected to the conductive roller of claim 1, wherein the conductive roller is used as a transfer roller for transferring a toner image from a photosensitive member of an electrophotographic apparatus to paper or to an intermediate transfer belt.

15. (Previously Presented) The conductive roller according to claim 1, wherein the non-saturation degree of said polyether polyol is not more than 0.015 milliequivalents/g.

16. (Previously Presented) The conductive roller according to claim 1, wherein the non-saturation degree of said polyether polyol is not more than 0.010 milliequivalents/g.

17. (Previously Presented) The conductive urethane composition according to claim 1, wherein the composition contains an ionic-conductive agent which is $\text{LiN}(\text{SO}_2\text{CF}_3)_2$.

18.-19. (Cancelled)

20. (New) A method of producing a conductive roller comprising a cylindrical body composed of a conductive urethane composition and a metal shaft disposed within the cylindrical body, wherein said conductive urethane composition is produced as follows:

- (a) an organometallic salt of bis(fluoroalkylsulfonyl)imide as an organic ionic conductive agent is dispersedly dissolved in a polyether polyol so as to form a solution;

- (b) thereafter, a curing catalyst is put into the solution of the conductive agent and the polyether polyol, and the solution is stirred to uniformly disperse the curing catalyst therein; and
- (c) polyisocyanate is added to the solution (b) so that the polyether polyol and the polyisocyanate react by a poly-addition reaction;

wherein:

an average value of a non-saturation degree of said polyether polyol is set to not more than 0.025 milliequivalents/g, a molecular weight of said polyether polyol is set to 4000- 6000, and said polyether polyol contains ethylene oxide and/or propylene oxide, and said ethylene oxide and/or propylene oxide is present at not less than 50wt% as ethylene oxide unit and/or propylene oxide unit in the polyether polyol,

the polyisocyanate is at least one polyisocyanate selected from the group consisting of tolylene di-isocyanate(TDI), monomeric MDI(MMDI), polymeric MDI(PMDI), xylylene di-isocyanate(XDI), hexamethylene di-isocyanate(HDI), isophorone di-isocyanate(IPDI), and modified substances formed by reaction of these isocyanates,

an isocyanate index (molar ratio (%) of NCO groups to OH groups) is 100 to 110,

not less than 0.01 parts by weight of said organic ionic-conductive agent nor more than 5.0 parts by weight thereof is used for 100 parts by weight of said polyol,

a volume resistivity of said conductive urethane composition is set to $10^{6.0}(\Omega \cdot \text{cm})$ - $10^{8.0}(\Omega \cdot \text{cm})$, and

said conductive urethane composition has a compression set not more than 15% when said compression set is measured at 70°C for 24 hours in a permanent set testing method for rubber, vulcanized or thermoplastic, specified in JIS K6262.

21. (New) A conductive roller produced by the method of claim 20.